

THE INVENTION CLAIMED IS:

1. A wireless digital telephone system comprising
at least two stations in communication with each
other by means of RF frequency channels comprising waveforms
5 divided into a multiplicity of frames, each frame comprising a
single slot;

means at said station to monitor the amplitude of
a received signal and to search for positive edges in said
signal;

10 means at said stations to adjust their frame
timing into alignment with said positive edges as they occur;

a first one of said stations being capable of
initiating frame synchronization between said stations, and each
other of said stations being capable of scanning the RF signals
15 transmitted by said first station until it determines the
channel and frame assigned to it;

said first station being adapted to receive RF
signals from said other station in the intervals between trans-
missions of its own RF signals.

20 2. The system of claim 1 which includes a slow rise,
fast decay automatic gain control (AGC) circuit which avoids
tracking in the absence of a signal.

3. The system of claim 2 wherein said slow rise, fast
decay AGC circuit comprises

25 an amplitude computation means into which a
received signal is fed and which outputs an amplitude signal;

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a comparator for receiving said amplitude signals and subtracting it from a predetermined threshold value to form a difference signal; and

means to determine the positive or negative sign of said difference signal to selectively implement a slow decay or a fast rise in the AGC signal.

4. The system of claim 1 including a course frequency acquisition circuit, said circuit comprising

computation means which separates a received signal into high band and low band energy frequencies;

means to subtract the high band energy output from the low band energy output to obtain a resultant signal;

means to strip off the sign of the resultant signals to determine only the amplitude thereof; and

means to accentuate the stripped signals while substantially filtering out noise.

5. The system of claim 1 wherein said first station is in communication with a central station.

6. The system of claim 5 wherein at least one of said other stations is coupled to a plurality of subscriber units; each of said subscriber units being assigned a separate slot.

7. The system of claim 6 wherein said first station is provided with monitor means to periodically poll said subscriber units to report on a predetermined function.

8. The system of claim 1 wherein said first station is in wireless interposition between at least one of said other stations and a station serving as a base station to form a repeater unit.

9. The system of claim 8 wherein said first station is in wireless communication with a series of similar stations, each acting as a base station by initiating frame synchronization, the last station in said series being in wireless communication with at least one of said other stations.

10. The system of claim 8 wherein said first station is in wireless communication with a plurality of similar stations, each acting as a base station by initiating frame synchronization, each of said similar stations being in wireless communication with at least one of said other stations, said other stations being subscriber stations.